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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,119	02/28/2002	Eric T. Bovell	3336.1004-000	3603
21005	7590	02/20/2004	EXAMINER	
HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133			VU, PHUONG T	
			ART UNIT	PAPER NUMBER
			2841	

DATE MAILED: 02/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application N .</b>	<b>Applicant(s)</b>	
	10/090,119	BOVELL, ERIC T.	
	<b>Examin r</b>	<b>Art Unit</b>	
	Phuong T. Vu	2841	<i>AW</i>

-- The MAILING DATE of this communication appears on th cover sheet with th correspondenc address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/15/03</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 17-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The scope of claim 17 is unclear regarding the presence of the tray. Furthermore, there is no antecedent basis for the tray in line 4 of the claim.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherry (US 5,757,617) over Wakita (US 5,488,538). Regarding claim 1, the Sherry reference discloses a sled module for a mass storage device comprising a housing 80, a circuit board 72 mounted to a portion of the housing, the circuit board having an end mounted signal connector 68, a mass storage device 60 having an enclosure and a signal connector 62. The reference does not teach providing spacers to accommodate different sized mass storage devices, however, Wakita teaches that it is known to provide spacers 20,30 for positioning a mass storage device 1 within a housing 12, the

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spacers thus permitting the housing to adapt to mass storage devices with different configurations and signal connectors with different positional configurations. It would have been obvious to those skilled in the art at the time the invention was made to modify the sled module of Sherry to provide spacers as taught by Wakita to allow the sled module to accommodate mass storage devices with different configurations and signal connectors with different positional configurations to expand the functionality of the sled module without incurring the production cost of having to redesign and remake the sled module for each variation of mass storage devices. In such a configuration, the spacers would position the mass storage device within the housing at a position juxtaposed with respect to the circuit board such that the signal connector on the circuit board and the signal connector on the mass storage device are necessarily aligned and mating with one another as shown in the Sherry reference to operate as intended, the spacers thus permitting the sled module to mate directly with the mass storage devices having signal connectors with different positional configurations.

Regarding claim 2, the Sherry reference teaches providing a cover 88. It would have been obvious to those skilled in the art at the time the invention was made that a hole may be provided allowing the mass storage device to protrude through the cover for easy access to the mass storage device.

Regarding claim 3, both references show that the mass storage device has only one connector, however, it is known in the art to provide mass storage devices with a separate data interface port and a power supply port. Correspondingly, the circuit board

would also then have a data interface connector and a power supply connector. The examiner takes Official Notice.

Regarding claim 4, the spacers position the mass storage device so that its connector mates with the connector of the circuit board. If separate connectors were provided as recited in claim 3, the spacers would necessarily position the mass storage device so that the data interface and power supply ports of the mass storage device mate with the corresponding connectors of the circuit board.

Regarding claim 5, both references show that the mass storage device is a hard disk drive.

Regarding claim 6, those skilled in the art would recognize that the above mentioned sled module may accommodate a CD-ROM drive, DVD drive or digital tape drive to further expand its functionality.

Regarding claims 7-8, the reference is silent regarding the material composition of the spacers. However, it would have been obvious that the spacers may be formed from plastic or rubber.

Regarding claims 9-10, it would have been obvious to those skilled in the art at the time the invention was made that the spacers may be made of a flexible, compressible material to provide shock absorption.

Regarding method claims 11-16, one would necessarily perform the recited steps in inserting the mass storage device in the sled module rejected above.

Regarding claim 17, Sherry shows a sled module comprising a circuit board 72 mounted within the sled module in a rear position thereof, the circuit board providing a

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rear connector 74 for power and data signals to and from a backplane of the tray, and the circuit board also providing a front mounted connector 68 for storage device signals, a mass storage device 60, positioned in a front portion of the tray, the mass storage device having a rear mounted connector 62 for storage device signals, the rear mounted connector located in a position on a rear face of the mass storage device, support rails 82 located in a front portion of the tray for mounting the mass storage device to the tray. Sherry does not teach providing any spacers to accommodate different mass storage devices with different connector positions, however Wakita teaches that it is known to provide spacers 20, 30 for positioning a mass storage device 1 within a housing 12. It would have been obvious to those skilled in the art at the time the invention was made to modify the sled module of Sherry to provide spacers as taught by Wakita to allow the sled module to accommodate mass storage devices with different configurations without incurring the inconvenience or production costs of having to redesign and remake the sled module for each variation of mass storage devices. In such a configuration, least one spacer would be disposed between a mass storage device and a support rail, the spacer having a thickness which would be chosen according to a position of the rear mounted connector on the mass storage device so that it can couple to a mating connector of the circuit board. The front connector on the circuit board would mate directly to the rear connector on the mass storage device and so that a different mass storage device having a rear mounted connector in a different position can be mounted in the same sled module by using a spacer with a different thickness.

Regarding claims 18-19, the storage device signals comprise data and power signals.

***Response to Arguments***

5. Applicant's arguments filed 12/02/03 have been fully considered.

A 35 U.S.C. 112 rejection was made previously regarding the ambiguity of the recitation of the tray in independent claim 17. In his response, Applicant removed the functional recitation of the tray from the preamble and stated that the tray has not been claimed. However, even though this is Applicant's intent, the claim language is still indefinite regarding the presence of the tray as the body of the claim still refers to the tray both positively and functionally.

Regarding the rejection of 1 claim based on the Sherry and Wakita references, Applicant states that the spacers permit the sled module to mate directly with mass storage devices having signal connectors with different positional configurations. It is believed that this limitation is still met as the signal connector on the circuit board would be aligned with signal connector on a mass storage device (as additionally required by the claim) and the sled module, which includes the signal connector on the circuit board and the ribbon cable, may be considered to mate directly with mass storage devices having signal connectors with different positional configurations as the ribbon cable may be considered a part of the sled module.

Regarding the examiner's statement that "when using the spacers as taught by Wakita to position the mass storage device, it is required that the signal connector of the mass storage drive be aligned to an extent so that it would mate with a connector of a

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circuit board”, it is the examiner’s position that when the signal connectors of the circuit board and HDD are connected (even with the presence of a ribbon cable), the signal connectors would necessarily be aligned to an extent for the connection to be made.

Applicant responded stating “Wakita does not teach or suggest directly mating the connectors of the circuit board and the mass storage device, and there is no reason to suppose that such a connection is intended”. In response to applicant’s argument that the references fail to show certain features of applicant’s invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In the rejection, it was noted that the prior art teaches using spacers to reposition the HDD so a connection could be attained. The spacers in the prior art and in the present invention are both generally for positioning HDDs, which would affect the connectors and the connection of the HDDs and the circuit board. Regarding the statement that the spacers shown in Wakita are merely used to accommodate varying mass storage drive width dimensions, it is noted that Wakita teaches that the spacers may used accordingly to compensate for differences in height and lengths as well (column 5, lines 53-54). Applicant notes that the spacers of the present invention are for accommodating HDDs with different end connector positions. However, it is noted that the present claimed structure does not distinguish from that shown in the prior art.



Finally, Applicant mentions that the prior art requires the use of a ribbon cable in the connection of the signal connectors. As noted in the prior rejection, the claims do not obviate the presence of a ribbon cable.

Regarding claim 17, Applicant states that the prior art does not show that the front connector on the circuit board mates directly to the rear connector on the mass storage device. However, it is noted that this claim language is still met even with the ribbon cable present. (Please refer to drawing figures).

Therefore, it is believed that the claim language has been fully met.

**6. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

**7.** Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong T. Vu whose telephone number is (571) 272-2111. The examiner can normally be reached on Mon. & Tues., 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David S. Martin can be reached on (571) 272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Phuong T. Vu  
Patent Examiner  
February 12, 2004